6302.0 - Average Weekly Earnings, Australia, May 2014
Previous ISSUE Released at 11:30 AM (CANBERRA TIME) 14/08/2014

Summary

Key Figures

KEY FIGURES

The following table contains the key Average Weekly Earnings figures for the May 2014 reference period.

The Australian Bureau of Statistics' Average Weekly Earnings survey is designed to measure the level of average earnings in Australia at a point in time. Movements in average weekly earnings can be affected by changes in both the level of earnings per employee and in the composition of the labour force. Factors which can contribute to compositional change include variations in the proportion of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; and variations in the distribution of employment between industries.

Table 1: Average Weekly Earnings, Key Figures, Australia, May 2014

	May 2014 $	May 2013 to May 2014 % change
Trend(a)		
Full-time adult average weekly ordinary time earnings	1 453.90	2.4
Full-time adult average weekly total earnings	1 516.90	2.3
All employees average weekly total earnings	1 122.90	1.8
Original		
Full-time adult average weekly ordinary time earnings	1 454.10	2.3
Full-time adult average weekly total earnings	1 515.80	2.2
All employees average weekly total earnings	1 123.00	1.6

(a) For further information regarding Trend estimates, please refer to paragraphs 59 to 64 of Explanatory Notes.

TREND ESTIMATES

In the twelve months to May 2014, Trend series Full-Time Adult Average Weekly Ordinary Time Earnings increased by 2.4% to $1,453.90.

The Full-Time Adult Average Weekly Total Earnings in May 2014 were $1,516.90, a rise of 2.3% from the same time last year.

To access the time series spreadsheets related to the measures presented above, please refer to the following link or click on the downloads tab at the top of the page.

In this issue

FORTHCOMING ISSUES

ISSUE	Release Date
November 2014	26 February 2015
May 2015	13 August 2015

SUMMARY COMMENTARY

IN THIS ISSUE

TREATMENT OF SURVEY OUTLIERS

Since the beginning of the survey, surprise outliering has been used as the sole methodology to identify and reduce the impact on the estimates of a business whose weighted survey response is an outlier i.e significantly different to businesses in a group with similar characteristics (based on employment size, state and industry). Surprise outliering involves treating the identified outlier as if it were the only extreme unit in the group's population. The outlier is given a weight of one and the weights of the other units in the group are adjusted upwards accordingly. From the May 2014 issue, winsorisation methodology has been introduced as the primary method to treat outliers in AWE. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. This improved methodology will provide more stable time series estimates. Surprise outliering will continue to be used for a small number of extreme values that may not be sufficiently moderated by the winsorisation method. For further information, see paragraphs 36 to 38 of the Explanatory Notes.

FREQUENCY CHANGE

The frequency of the average weekly earnings series changed from quarterly to biannual in 2012. The May 2012 publication was the final quarterly issue and the November 2012 the first produced on a biannual basis. For full details on the change in frequency, refer to the Information Paper: Changes to Average Weekly Earnings, Australia, April 2012 (cat. no. 6302.0.55.002).

SEASONALLY ADJUSTED AND TREND ESTIMATES

As part of the transition to a biannual frequency, an assessment was conducted in 2012 on the feasibility of releasing biannual seasonally adjusted and trend estimates. It was determined that reducing the frequency of collection did not eliminate observed seasonality for some time series leaving 27 biannual series needing seasonal adjustment. All other series are no longer seasonally adjusted and where this is applicable the seasonally adjusted estimate will be exactly equal to the original series estimate. Relevant series are annotated in the time series spreadsheets.

In addition, the change in frequency resulted in a slight change in the level of seasonally adjusted and trend estimates and, therefore, new series were produced and first released in the November 2012 edition. The series commence with May 2012 data. Those users seeking historical seasonally adjusted and trend estimates will be required to access past AWE editions,

which are available by clicking the past and future releases tab at the top of this page. It is advised that seasonally adjusted and trend estimates produced before and after the May 2012 edition are not directly comparable. For further details on seasonally adjusted and trend estimates, refer to paragraphs 55 to 64 in the Explanatory Notes.

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070. The ABS Privacy Policy outlines how the ABS will handle any personal information that you provide to us.

Australia

AUSTRALIA

Table 2 below presents the key Average Weekly Earnings, Australia figures in Trend estimate terms. Trend estimates are obtained by removing calendar related effects and irregular components from the data. They are considered a reliable guide to the underlying direction of the series.

Table 2: Average Weekly Earnings, Australia, Trend(a), May 2014

	May 2014 $	May 2013 to May 2014 % change
Males		
Full-time adult average weekly ordinary time earnings	1 559.10	2.9
Full-time adult average weekly total earnings	1 648.10	2.8
All employees average weekly total earnings	1 362.10	0.8
Females		
Full-time adult average weekly ordinary time earnings	1 275.90	1.9
Full-time adult average weekly total earnings	1 293.50	2.0
All employees average weekly total earnings	882.60	3.6
Persons		
Full-time adult average weekly ordinary time earnings	1 453.90	2.4
Full-time adult average weekly total earnings	1 516.90	2.3
All employees average weekly total earnings	1 122.90	1.8

(a) For further information regarding Trend estimates, please refer to paragraphs 59 to 64 of the Explanatory Notes.

Original series data presented below has not been adjusted to remove the effects of either seasonal or irregular influences. Compared with May 2013, Full-Time Adult Average Weekly Ordinary Time Earnings have risen by 2.3% to $1,454.10.

Table 3: Average Weekly Earnings, Australia, Original, May 2014

	May 2014 $	May 2013 to May 2014 % change
Males		
Full-time adult average weekly ordinary time earnings	1 560.50	2.9
Full-time adult average weekly total earnings	1 648.20	2.8
All employees average weekly total earnings	1 364.60	0.6
Females		
Full-time adult average weekly ordinary time earnings	1 274.40	1.9
Full-time adult average weekly total earnings	1 292.10	2.0

All employees average weekly total earnings	881.30	3.7
Persons		
Full-time adult average weekly ordinary time earnings	1 454.10	2.3
Full-time adult average weekly total earnings	1 515.80	2.2
All employees average weekly total earnings	1 123.00	1.6

It is important to note that while Average Weekly Earnings data can be used to compare, at the very broad level, average earnings between males and females, such comparisons do not take into account a range of compositional differences, for example, differences in occupation or hours worked, which contribute significantly to the differences observed between male and female earnings. Details of occupation and hours worked are not collected in the Average Weekly Earnings survey. For further comparisons between male and female wages, including hourly rates and by occupation, refer to Employee Earnings and Hours (cat. no. 6306.0).

For further earnings information related to industry, including a breakdown by sex, please refer to the time series spreadsheets in the following link or click on the downloads tab at the top of the page.

Private and Public Sector Earnings

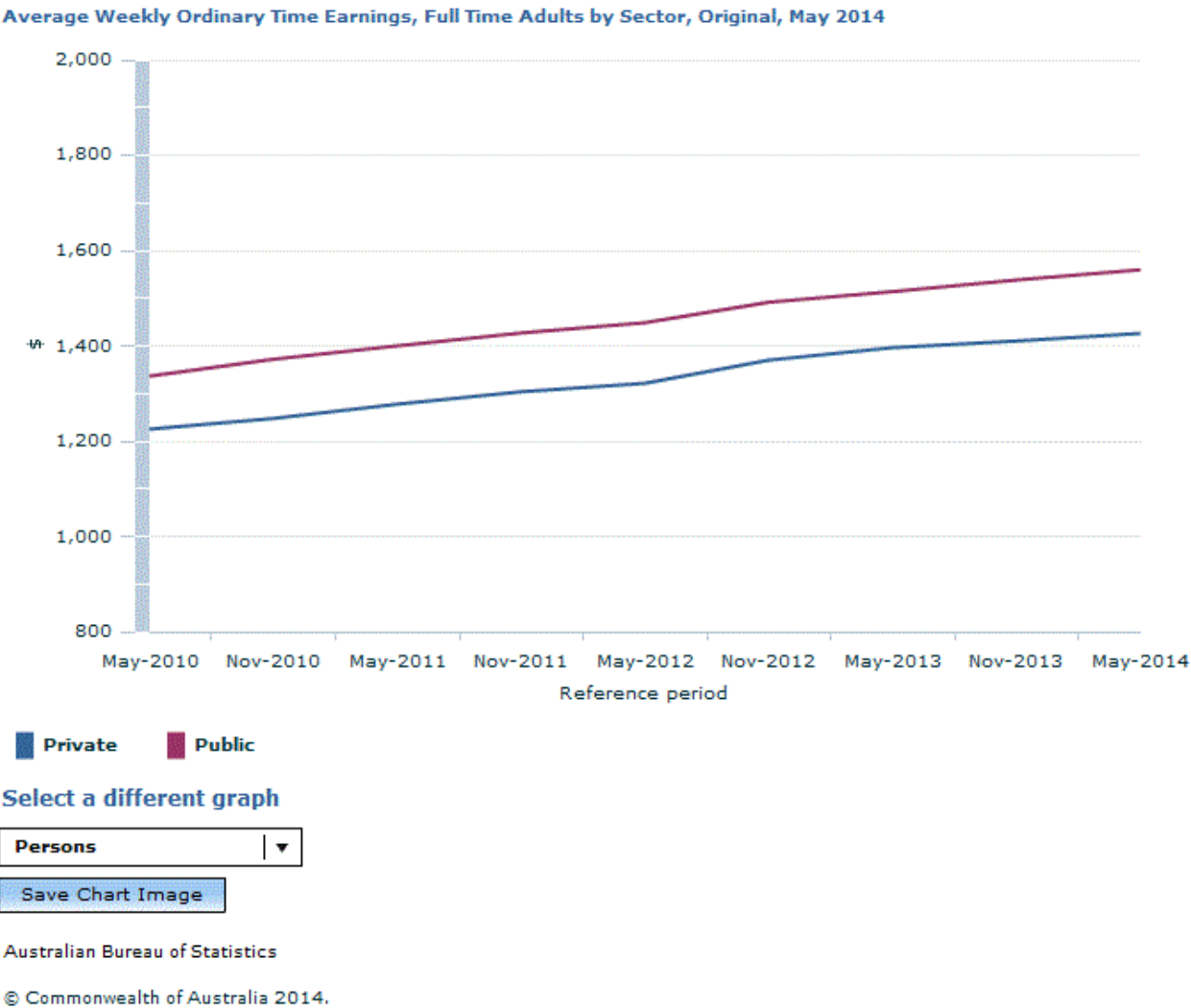## PRIVATE AND PUBLIC SECTOR EARNINGS

In May 2014, those employed in the Public sector had higher Full-Time Adult Average Weekly Ordinary Time Earnings than their Private sector counterparts, at $1,559.90 and $1,426.00 respectively (a difference of $133.90). This difference was more pronounced in the All Employees Total Earnings series in May 2014; employees in the Public sector on average earned $223.30 per week more than those employed in the Private sector. This can be partially attributed to the higher proportion of Full-Time Adult employees in the Public sector compared with the Private sector.

Table 4: Average Weekly Earnings, By Sector, Original, May 2014

	May 2014 $	May 2013 to May 2014 % change
Australia		
Full-time adult average weekly ordinary time earnings	1 454.10	2.3
Full-time adult average weekly total earnings	1 515.80	2.2
All employees average weekly total earnings	1 123.00	1.6
Private Sector		
Full-time adult average weekly ordinary time earnings	1 426.00	2.1
Full-time adult average weekly total earnings	1 491.40	2.0
All employees average weekly total earnings	1 080.20	1.3
Public Sector		
Full-time adult average weekly ordinary time earnings	1 559.90	3.1
Full-time adult average weekly total earnings	1 607.50	3.1
All employees average weekly total earnings	1 303.50	2.7

In May 2014, the Full-Time Adult Male Average Weekly Ordinary Time Earnings were $1,666.50 in the Public sector, and $1,539.70 in the Private sector.

The Full-Time Adult Female Average Weekly Ordinary Time Earnings in May 2014 were $1,457.30 in the Public sector, and $1,200.50 in the Private sector.

Average Weekly Ordinary Time Earnings, Full Time Adults by Sector, Original, May 2014

Private   Public

Select a different graph

Persons ▼

Save Chart Image

Australian Bureau of Statistics

© Commonwealth of Australia 2014.
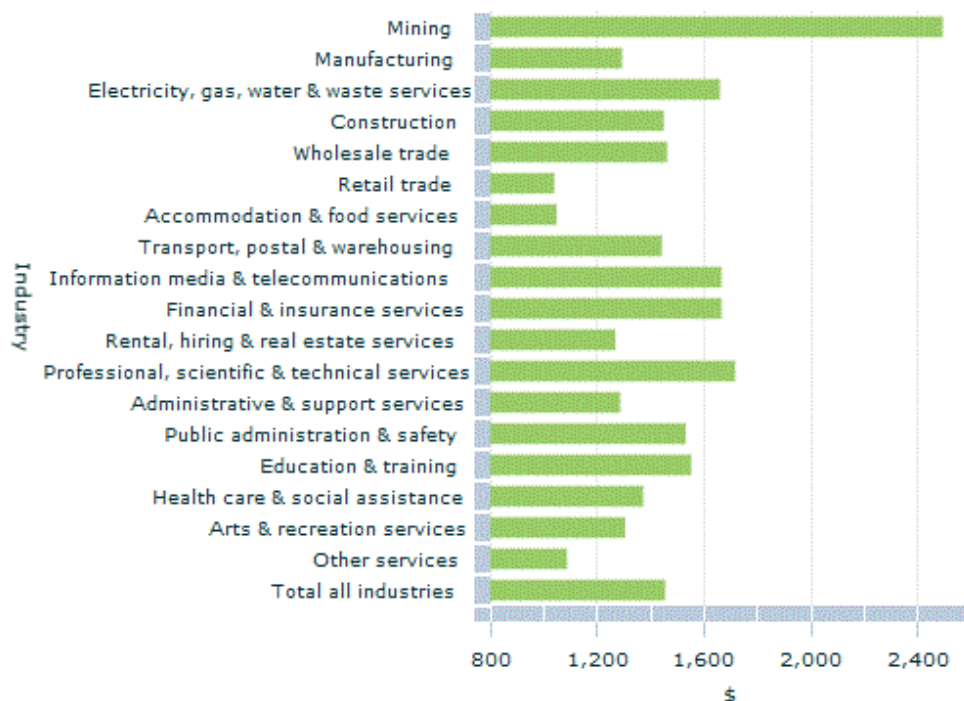
Source(s): Average Weekly Earnings, Australia

For further earnings information related to sector, including a breakdown by sex, and estimates in Trend and Seasonally Adjusted terms, please refer to the time series spreadsheets in the following link or click on the downloads tab at the top of the page.

Industry Earnings

INDUSTRY EARNINGS

In May 2014, those employed in the Mining industry had the highest Full-Time Adult Average Weekly Ordinary Time Earnings in Australia at $2,493.20. The industry with the lowest level of Full-Time Adult Average Weekly Ordinary Time Earnings was the Retail trade industry ($1,040.40).

Average Weekly Ordinary Time Earnings, Full Time Adults by Industry, Original, May 2014

Source(s): Average Weekly Earnings, Australia

For further earnings information related to industry, including a breakdown by sex, please refer to the time series spreadsheets in the following link or click the downloads tab at the top of the page.

State and Territory Earnings

STATE AND TERRITORY EARNINGS

In May 2014, those employed in the Australian Capital Territory had the highest Full-Time Adult Average Weekly Ordinary Time Earnings at $1,663.40, followed by Western Australia ($1,641.20). The Australian Capital Territory has a high proportion of Public sector workers, who on average earn more than those in the Private sector. In recent years WA has experienced a resource sector boom which has had a significant influence on wages in the Mining industry as well as those businesses providing services to Mining (for example, some businesses in the Construction and Wholesale trade industries).

Average Weekly Ordinary Time Earnings, Full Time Adults by State, Original, May 2014

Persons

Select a different graph

Persons ▾

Save Chart Image

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Source(s): Average Weekly Earnings, Australia

For further earnings information related to States and Territories, including detailed breakdown by sex, please refer to the time series spreadsheets in the following link or click on the downloads tab at the top of the page.
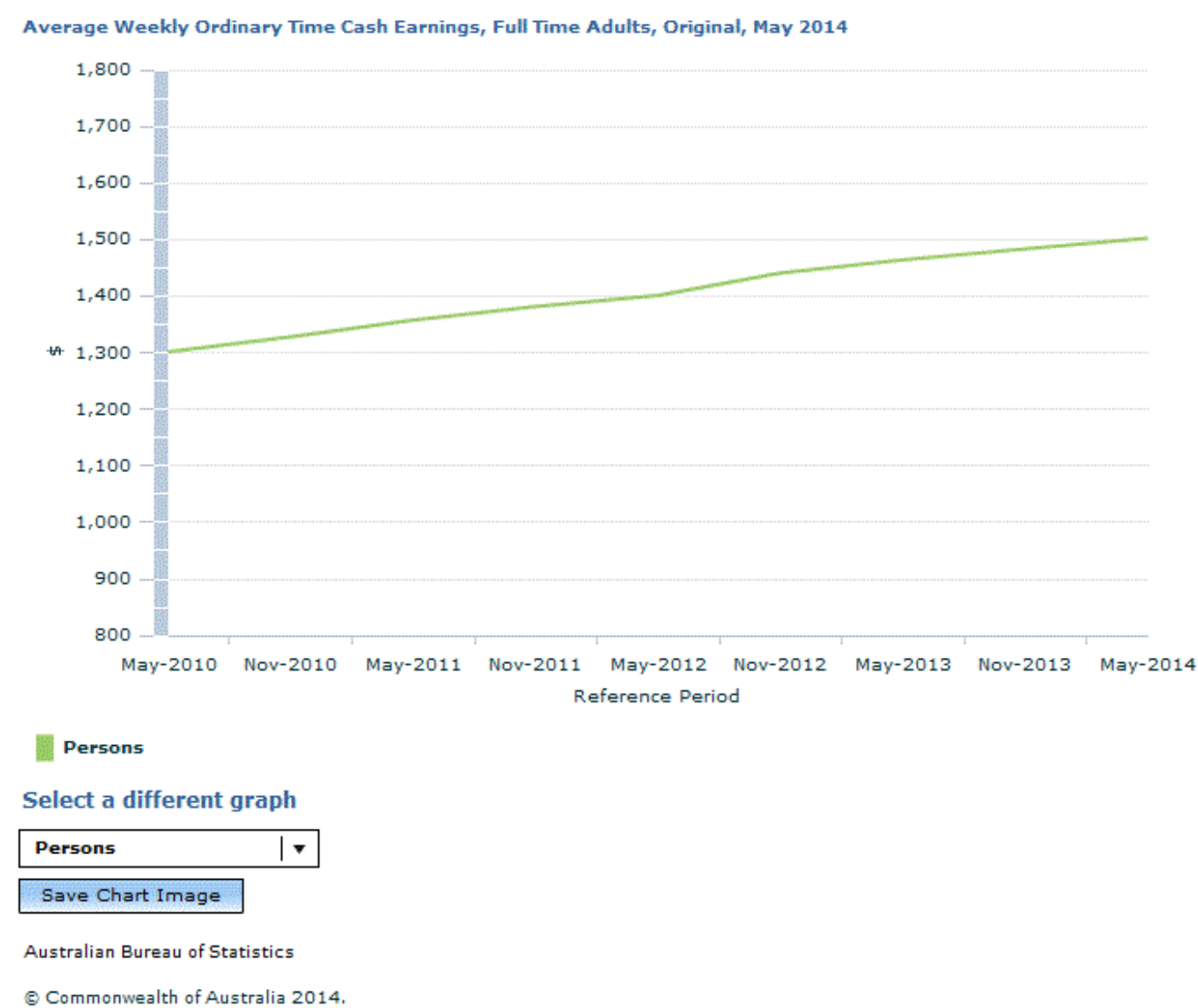
Average Weekly Cash Earnings

AVERAGE WEEKLY CASH EARNINGS

Commentary in the other sections of this e-magazine relates exclusively to estimates of employee earnings which exclude amounts salary sacrificed. This section includes information on Average Weekly Cash Earnings (AWCE), which provides estimates of employee earnings including amounts salary sacrificed.

Salary sacrifice is defined as an arrangement where an employee agrees to forgo part of his or her salary in return for benefits of a similar value. Common types of salary sacrifice arrangements include pre-tax contributions to superannuation funds and novated leases for

motor vehicles.

Average Weekly Ordinary Time Cash Earnings, Full Time Adults, Original, May 2014

Persons

Select a different graph

Persons ▼

Save Chart Image

Australian Bureau of Statistics

© Commonwealth of Australia 2014.

Source(s): Average Weekly Earnings, Australia

In May 2014, on average, full-time adult employees in Australia salary sacrificed $48.40 (Full-time adult ordinary time cash earnings $1,502.50 minus Full-time adult ordinary time earnings $1,454.10). This is an increase of $1.90 from November 2013.

Amounts salary sacrificed by an employee can be affected by a change in his or her earnings, for example, an increase in the level of overtime worked or commissions earned. Additionally, some employees sacrifice more of their salary at the beginning of the financial year and then the amount tapers off towards the end of the year when he or she has reached the concessional contributions cap for salary sacrificing superannuation. For other employees, the amount of salary sacrificed increases towards the end of the financial year to ensure the cap is reached. A feature article examining Salary Sacrifice in Australia has been included in the November 2012 edition of the Average Weekly Earnings release and can be found in the following link.

For further earnings information related to Average Weekly Cash Earnings, please refer to the time series spreadsheets in the following link or click on the downloads tab at the top of the page.

Average Weekly Earnings and Wage Price Index - What do they measure?

FEATURE ARTICLE: AVERAGE WEEKLY EARNINGS AND WAGE PRICE INDEX – WHAT DO THEY MEASURE?

INTRODUCTION

The ABS publishes a variety of information on wages and salaries (often referred to as 'earnings') from both household and employer surveys. These data have many uses including economic analysis, social research, policy formulation and evaluation, and research by employer and employee associations. The decision on which data to use should depend on the purpose and type of analysis to be undertaken.

The six monthly Average Weekly Earnings (AWE) and quarterly Wage Price Index (WPI) collections both measure the wages and salaries of employees. These collections have different purposes and, as a result, use different methodologies.

This article begins by outlining the purpose and key uses of AWE and WPI. The article then briefly describes the AWE and WPI methodologies, and uses examples based on hypothetical labour market conditions to demonstrate how the two surveys can respond differently to economic events.

BACKGROUND

Examining changes in wages and salaries assists in identifying inflationary pressures in the economy as well as highlighting structural changes in the labour market. As wages and salaries paid to employees represents a significant component of operating costs for businesses, changes in wages and salaries can highlight cost pressures facing businesses. Changes in wages and salaries can reflect the impact of the economic cycle on the labour market or sections within the labour market.

The AWE and WPI collections aim to measure different, albeit related, concepts. The AWE is part of the suite of statistics designed to capture employee remuneration (for more detail please see the Feature Article 'Understanding Earnings in Australia Using ABS Statistics' in the July 2014 issue of Australian Labour Market Statistics, cat. no. 6105.0). AWE is designed to measure earnings, which consist of payments-in-cash and payments-in-kind such as fringe benefits (Labour Statistics: Concepts, Sources and Methods, 2013, cat. no. 6102.0.55.001). In practice, however, it is only practical for ABS earnings series to include wages and salaries in cash as well as salary sacrifice arrangements (which are in-kind payments that are at the discretion of the employee). The WPI is designed to measure inflationary pressures associated with the Compensation of Employees (CoE), as outlined by the System of National Accounts (2008). Theoretically, WPI would include all elements of CoE, but for practical reasons it focuses on wages and salaries payments in cash, as well as salary sacrifice payments. Thus, despite differences in the underlying aims of the two collections, there is considerable commonality in the scope of the two collections. For the sake of simplicity, the term 'wages and salaries' has been used to refer to the scope of WPI and AWE throughout this article.

The WPI measures changes in the wages and salaries paid by employers for a unit (i.e. hour) of labour where the quality and quantity of labour are held constant. It has the dual purpose of monitoring wages and salaries inflation in the economy and supporting the compilation of the Australian System of National Accounts. To achieve this, the WPI uses a Laspeyres index methodology (where the price in a particular period is compared to that in a previous fixed period) designed to produce a measure of pure price change in wages and salaries independent

of compositional factors (i.e. the quantity and quality of labour are held constant). 'Quantity' refers to compositional factors such as the effect of changing hours paid for and number of employees. 'Quality' refers to changes in job specifications or job holder characteristics such as employee performance or relative level of experience. These factors are held constant by ensuring that jobs are matched between quarters with no change in job specifications and by holding weekly hours constant between quarters. Adjustments to remove changes in quality and quantity are made during the statistical production phase of the WPI survey.

In contrast, the AWE is designed to provide an accurate estimate of the current average value of wages and salaries paid to employees by an employer over a specified period. The emphasis placed on producing a contemporary measure of average wages and salaries means that the AWE reflects structural changes that occur over time (such as changes in hours paid for and employment). The AWE achieves this by collecting payroll data for a specified period. This method allows quantity and quality (i.e. compositional effects) to be included in the AWE outputs. The examples in the next section demonstrate how AWE and WPI will be affected differently by real world economic events.

EXAMPLES DEMONSTRATING THE EFFECT OF LABOUR MARKET CHANGES ON AWE AND WPI GROWTH RATES

To illustrate the way in which the AWE and WPI respond to various changes in the labour market the following simplified examples using hypothetical data are provided.

Consider an initial population (period 0) of three businesses with a combined total of eight occupied jobs. The four examples that follow contain period 1 data with a change in either: (1) the number of employees; (2) the weekly hours paid for (hereafter referred to as 'hours'); (3) market based changes to the hourly rates; or (4) non-market based changes to the hourly rates. For illustrative purposes the examples require a number of assumptions to be made:

- All jobs/businesses are collected from the hypothetical population. In reality, the AWE and WPI are both stratified sample based surveys and do not sample all possible jobs or businesses within the economy;
- The examples ensure that changes are only applied to one variable (hours, employment, or hourly rate) at a time to allow the impact on the respective estimates to be isolated. In the real economy, these changes occur concurrently, and separately identifying the impact of these changes is difficult;
- Changes to employment and hours are applied uniformly and in a consistent direction across the population in these examples. In reality, employment or hours can change in different directions and by varying magnitudes within different sections of the economy, which can result in complex distributional effects;
- The WPI index methodology incorporates expenditure value data to combine elementary aggregates (groupings of similar jobs) in the aggregation process (see Wage Price Index: Concepts, Sources and Methods, 2012, cat. no. 6351.0.55.001). There is only one elementary aggregate in this example, so expenditure values are not required; and
- Period 0 is assumed to be the index reference period for WPI, resulting in an index number of 100.0 being used in this example.

Consider period 0 data below:

Period 0 — Data used for Examples 1-4

Business ID	Job ID	Weekly Hours	Hourly Rate	Weekly Wages and Salaries
Business A	Job 1	38	24.50	931.00
	Job 2	38	24.71	938.98

	Job 3	38	23.83	905.54
Business B	Job 4	38	44.64	1 696.32
	Job 5	38	45.25	1 719.50
	Job 6	38	52.13	1 980.94
Business C	Job 7	38	19.85	754.30
	Job 8	38	32.74	1 244.12
Total	**8**			**10 170.70**

Average weekly earnings can be calculated using the following formula:

Equation 1:

$$AWE_t = \frac{\sum WeeklyEarnings}{\sum Employees}$$

In period 0:

$$AWE_0 = \frac{10\,170.7}{8} = \$1271.34$$

As stated earlier, the WPI in period 0 is 100.0. To calculate wages growth in the WPI (and the change in the AWE), period 1 data are required.

Example 1: Employment Change

Period 1 — AWE and WPI comparison, with the addition of two jobs

Business ID	Job ID	Weekly Hours	Hourly Rate	Weekly Wages and Salaries
Business A	Job 1	38	24.50	931.00
	Job 2	38	24.71	938.98
	Job 3	38	23.83	905.54
Business B	Job 4	38	44.64	1 696.32
	Job 5	38	45.25	1 719.50
	Job 6	38	52.13	1 980.94
Business C	Job 7	38	19.85	754.30
	Job 8	38	32.74	1 244.12
	Job 9	38	19.85	754.30
	Job 10	38	19.85	754.30
Total	**10**			**11 679.30**

In this example, business C has hired two additional employees between period 0 and period 1. The weekly hours and hourly rates of the existing jobs are held constant between the two

periods. First, AWE is calculated in period 1 using equation 1:

$$AWE_1 = \frac{11679.30}{10} = \$1167.93$$

Therefore, the percentage change in the AWE from period 0 to period 1 is:

$$\left[\frac{1167.93 - 1271.34}{1271.34} \right] * 100 = -8.1\%$$

In this case, the addition of the two new employees causes a drop in the AWE, since the weekly earnings of both employees are below the period 0 average. If the new employees received weekly earnings above the period 0 average, the AWE would show a rise.

This can be compared to the effect on the WPI. In the absence of expenditure values, the change in the WPI is calculated as a ratio of weighted average prices, using the following formula:

Equation 2:

$$R_t = \frac{\sum p_t b_0}{\sum p_0 b_0}$$

Where: R_t is known as the current period (period 1 in this case) 'price relative'; p_t is the current period hourly rate; p_0 is the index reference period hourly rate; and h_0 is the weekly hours which are held constant from the index reference period.

The WPI measures price changes to constant quantity and quality, so only jobs that are matched between periods will contribute to the index. Since jobs 9 and 10 are not matched between period 0 and 1, they will not contribute to the index until two periods of data are obtained for these jobs.

Therefore:

$$R_1 = \frac{10\,170.70}{10\,170.70} = 1$$

To calculate the new WPI index number (I_t), the index number from the index reference period (I_0) is multiplied by the price relative in the current period (R_t):

Equation 3:

$$I_t = I_0 * R_t$$

In period 1:

$$I_t = 100.0 * 1 = 100.0$$

In this case, there is no change to the WPI as a result of the increase in the number of employees in Business C as they are not yet included in the index calculation. The exclusion of the new employees from the index calculation means that there has been no change in the hourly rate between periods 0 and 1.

Example 2: Change in Hours

Period 1 — AWE and WPI comparison, with a uniform increase in hours worked for all jobs

Business ID	Job ID	Weekly Hours	Hourly Rate	Weekly Wages and Salaries

Business A	Job 1		40	24.50	980.00
	Job 2		40	24.71	988.40
	Job 3		40	23.83	953.20
Business B	Job 4		40	44.64	1 785.60
	Job 5		40	45.25	1 810.00
	Job 6		40	52.13	2 085.20
Business C	Job 7		40	19.85	794.00
	Job 8		40	32.74	1 309.60
Total	**8**				**10 706.00**

In this example, hours worked have increased from 38 to 40 for all jobs in the population. This has resulted in a rise in weekly wages and salaries for all jobs. AWE can be recalculated in period 1 using equation 1:

$$AWE_1 = \frac{10706.00}{8} = \$1338.25$$

Therefore, the percentage change in the AWE from period 0 to period 1 is:

$$\left[\frac{1338.25 - 1271.34}{1271.34} \right] * 100 = 5.3\%$$

A uniform increase/decrease in hours worked will always result in a rise/fall in the AWE when hourly rates and the number of employees are held constant. In reality, changes in hours worked are rarely uniform across the economy and distributional effects will also affect the results. For example, hours may increase in relatively high paid sectors of the economy and decrease in relatively low paid sectors. In this case, there may be no change in aggregate hours worked, but average weekly earnings would still rise.

Equation 2 for the WPI price relative (R_t) shows that the hours worked (h_0) are held constant between periods. The current period hours do not enter the formula. Therefore, the WPI price relative is calculated as follows:

$$R_1 = \frac{10\,170.7}{10\,170.7} = 1$$

There is no change in the WPI regardless of the magnitude or distribution of the change in hours worked within the population (assuming no change in the hourly rate).

Example 3: Market based pay rise

Period 1 — AWE and WPI comparison, with a 'Market based' pay rise

Business ID	Job ID	Weekly Hours	Hourly Rate	Pay change	Weekly Wages and Salaries
Business A	Job 1	38	25.48	4%	968.24
	Job 2	38	25.70	4%	976.60
	Job 3	38	24.78	4%	941.64

Business B	Job 4	38	44.64	0%	1 696.32
	Job 5	38	45.25	0%	1 719.50
	Job 6	38	57.34	10%	2 178.92
Business C	Job 7	38	19.85	0%	754.30
	Job 8	38	32.74	0%	1 244.12
Total	**8**				**10 479.64**

In this example, there has been a rise in the hourly rate for jobs 1, 2, 3 and 6 between periods 0 and 1. It is assumed that these rises are purely 'market based' (i.e. rises are determined solely by market based factors, such as broad based CPI increases, Enterprise Agreement rises or minimum wage rises). AWE can be recalculated in period 1 using equation 1:

$$AWE_1 = \frac{10479.64}{8} = \$1309.96$$

Therefore, the percentage change in the AWE from period 0 to period 1 is:

$$\left[\frac{1309.96 - 1271.34}{1271.34}\right] * 100 = 3.0\%$$

As the increases are considered 'market based' and the quantity and quality of labour are held constant the WPI price relative is calculated, using equation 2, as follows:

$$R(WPI)_1 = \frac{10479.64}{10170.70} = 1.03$$

From equation 3, the new index number can be calculated as 103.0 in period 1.

$$100 * 1.03 = 103.0$$

The period 0 and period 1 indexes can be used to calculate a quarterly movement of 3.0%.

$$\frac{(103.0 - 100.0)}{100.0} * 100 = 3.0\%$$

In this example, AWE and WPI produce the same result.

Example 4: Performance based pay rise

In this example, it is assumed that the pay changes that occur between period 0 and period 1 described in example 3 are based on factors unrelated to the market, such as good performance or the relative level of employee experience in the job. In other words, the pay changes occur due to changes in the 'quality' of the jobs.

This distinction does not impact on the calculation of the AWE. The change between periods 0 and 1 is still 3.0%. However, this change in quality is removed from the WPI during processing and would result in no movement being observed for the WPI under this example.

CONCLUSION

The above examples are highly simplified and provided for illustrative purposes only. They should not be taken as hypotheses for historical divergences between the series. In reality, the changes to employment, pattern of hours, and non-market changes described above do not occur in isolation and are seldom spread uniformly across the economy. In practice, it is virtually impossible to disentangle these effects and pinpoint the precise cause of any given movement in

the AWE series. Movements in the AWE result from a complex interrelationship between distributional influences and changes in hours, employment levels and pay rates that can often be pulling in different directions.

The choice of using WPI or AWE growth rates will be dictated by the purpose of analysis. If analysis is focused on current value of average wages and salaries that reflects contemporary structural change in the labour market (e.g. changes in employment in particular industries), then AWE should be the preferred measure. If analysis is concerned with the inflationary pressure associated with wages and salaries, then users should consider using the WPI.

About this Release

Contains estimates of average weekly ordinary time earnings and average weekly total earnings for full-time adult employees and average weekly total earnings for all employees, classified by sector and state or territory and by industry at the Australia level, for males, females and persons.

The frequency of the average weekly earnings series changed from quarterly to biannual in 2012. The May 2012 edition was the last quarterly issue and the November 2012 the first produced on a biannual basis. From 2013 onwards, AWE data has been produced twice a year relating to May and November reference periods.

Explanatory Notes

Explanatory Notes

EXPLANATORY NOTES

INTRODUCTION

1 This publication contains biannual estimates of Average Weekly Earnings (AWE) based on information obtained from a sample survey of employers.

CONCEPTS, SOURCES AND METHODS

2 Descriptions of the underlying concepts of Australia's AWE statistics, and the sources and methods used in compiling these estimates, are presented in Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.001).

REFERENCE PERIOD

3 AWE is produced for the June and December quarters. The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter (i.e. May and November). Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

SCOPE AND COVERAGE

4 All wage and salary earners who received pay for the reference period are represented in the AWE survey, except:

- members of the Australian permanent defence forces;
- employees of enterprises primarily engaged in agriculture, forestry and fishing;
- employees of private households;
- employees of overseas embassies, consulates, etc.;
- employees based outside Australia; and
- employees on workers' compensation who are not paid through the payroll.

5 Also excluded are the following persons who are not regarded as employees for the purposes of this survey:

- casual employees who did not receive pay during the reference period;
- employees on leave without pay who did not receive pay during the reference period;
- employees on strike, or stood down, who did not receive pay during the reference period;
- directors who are not paid a salary;
- proprietors/partners of unincorporated businesses;
- self-employed persons such as subcontractors, owner/drivers, consultants;
- persons paid solely by commission without a retainer; and
- employees paid under the Australian Government's Paid Parental Leave Scheme.

6 The sample for AWE, like most Australian Bureau of Statistics (ABS) business surveys, is selected from the ABS Business Register (ABSBR) which is primarily based on registrations to the Australian Taxation Office's (ATO) Pay As You Go Withholding (PAYGW) scheme. The business register is updated quarterly to take account of:

- new businesses;
- takeovers and mergers;
- changes in industry classification;
- changes in the number of employees;
- businesses which have ceased employing; and
- other general business changes.

7 The estimates include an allowance for the time it takes newly registered businesses to be added to the survey population.

8 Businesses which have ceased employing are identified when the ATO cancels their PAYGW registration. In addition, businesses which have not remitted under the PAYGW scheme for the previous five quarters are removed from the population.

SURVEY DESIGN

9 A sample of approximately 5,500 employer units is selected from the ABS Business Register to ensure adequate state, industry and sector representation. The sample is updated each survey period to reflect the changes described in paragraph 6. These changes arise from the emergence of new businesses, takeovers and mergers, changes to industry classification, changes in the number of employees, and businesses which have ceased operations. Such updating of the business register can contribute to movements in the AWE estimates.

10 A sample redesign of the AWE survey was implemented in August 2009 incorporating the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0).

11 The statistical unit for the survey comprises all the activities of an employer in a particular

state or territory based on the Type of Activity Unit. For further information on the statistical unit see paragraphs 18 to 33. Each statistical unit is classified to an industry which reflects the predominant activity of the business. The statistical units are stratified by state, sector, industry and employment size, and within each stratum, statistical units are selected with equal probability.

INDUSTRY CLASSIFICATION

12 The statistics in this release are classified to industry in accordance with the Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat. no. 1292.0). This replaced the 1993 edition of ANZSIC in the August 2009 issue of this publication, which had been in use since 1994.

13 The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system, taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards.

SURVEY FREQUENCY

14 Prior to 2012, Average Weekly Earnings was conducted on a quarterly basis. However, the frequency of the AWE survey is now biannual, with the May 2012 edition being the last quarterly issue and the November 2012 edition the first produced on a biannual basis. AWE data is now produced twice a year relating to the May and November reference periods only. Data is collected and released on the same basis as before for the May and November reference periods. For full details on the change in frequency, refer to the Information Paper: Changes to Average Weekly Earnings, Australia, April 2012 (cat. no. 6302.0.55.002).

15 As a result of the change in frequency, new seasonally adjusted and trend estimate series are produced (refer to paragraphs 55-64 below).

IMPACT OF STATISTICAL CHANGES IMPLEMENTED IN AUGUST 2009

16 With effect from the August 2009 edition, this publication presents data on the basis of ANZSIC 2006. At this time the ABS also implemented a sample redesign. The changes resulted in a shift in the level of the series from ANZSIC 1993 to ANZSIC 2006 estimates. The difference in the level of the two series was measured and backcast into the historical series to make a time series of estimates on an ANZSIC 2006 basis. Because of the changes to level estimates, percentage change movements for the ANZSIC 2006 AWE series are not identical to those under ANZSIC 1993. Differences at the state, sector and Australia levels are generally insignificant and within current released standard errors for each series.

17 Published industry series have been backcast and data from August 1994 to May 2009 are available on the basis of both editions of ANZSIC on the ABS website. More information about theses changes can be found in the Information Paper: Changes to Average Weekly Earnings, Australia, Aug 2009 (ABS cat. no. 6302.0.55.002).

ABS ECONOMIC UNITS MODEL

18 The Economic Units Model is used by the ABS to determine the structure of Australian businesses and other organisations. The model consists of:
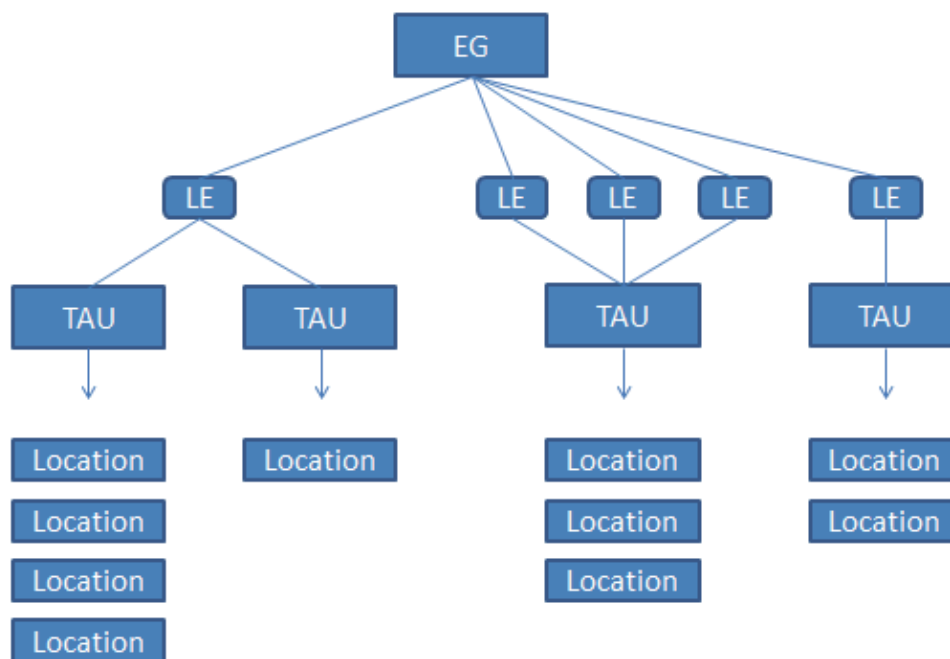
- The Enterprise Group (EG)

- Legal Entities (LEs)
- Type of Activity Units (TAUs)
- Location Units.

19 The EG and LE are institutional units and the TAU and Location are producing units.

20 The LE and the TAU are the main institutional and producing units used by the ABS to produce statistical outputs.

21 Diagram 1 illustrates the nature of the relationships between the different units within the model.

Diagram 1: ABS Economic Units Model*

* The legal entity (LE) statistical unit is generally equivalent to a single Australian Business Number registration

UNIT DEFINITIONS

22 The **Legal Entity (LE)** is an institutional unit covering all the operations in Australia of an entity which possesses some or all of the rights and obligations of individual persons or corporations, or which behaves as such in respect of those matters of concern for economic statistics. Examples of legal entities include companies, partnerships, trusts, sole (business) proprietorships, government departments and statutory authorities. Legal entities are institutional units. In most cases the LE is equivalent to a single Australian Business Number (ABN) registration.

23 The **Enterprise Group (EG)** is an institutional unit that covers all the operations within Australia's economic territory of legal entities under common control. Control is defined in Corporations legislation. Majority ownership is not required for control to be exercised.

24 The **Type of Activity Unit (TAU)** comprises one or more Legal Entities, sub-entities or

branches of a Legal entity that can report productive and employment activities. TAUs are created if accounts sufficient to approximate Industry Value Added (IVA) are available at the Australian and New Zealand Standard Industrial Classification (ANZSIC) subdivision level.

25 A **Location** is producing unit comprised of a single, unbroken physical area from which an organisation is engaged in productive activity on a relatively permanent basis, or at which the organisation is undertaking capital expenditure with the intention of commencing productive activity on a relatively permanent basis at some time in the future.

CLASSIFICATION OF UNITS

26 Various classifications are applied to the units in the ABS Economic Units Model. The main classifications applied are:

- ANZSIC
- Type of Legal Organisation (TOLO)
- Type of Business Entity (TOBE)
- Standard Institutional Sector Classification of Australia (SISCA)
- Public / Private classification.

27 ANZSIC is used to classify the industry in which the TAU has productive activity. Further information on this classification can be found in Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (cat no. 1292.0).

28 SISCA provides a framework for dividing the Australian economy into institutional sectors. Further information on this classification can be found in Standard Economic Sector Classifications of Australia (SESCA), 2008 (cat no. 1218.0).

ABS BUSINESS REGISTER

29 The ABSBR is a list of businesses and organisations operating in Australia and is based on the Australian Business Register (ABR). Organisations are included on the ABR when they register for an ABN. The Commonwealth Government requires all government departments and agencies to make use of the ABR to reduce government imposed reporting load, and to use the ABN as the primary reference number for all dealings between government and business. The ABSBR is used to create frames for the various business surveys run by the ABS.

30 It is not practicable for the ABS Economic Units Model to be applied to all ABR registrants and it is organised into two parts; the profiled population, and the non-profiled population.

31 **Profiled Population**: Businesses and other organisations which are considered sufficiently complex and significant, are profiled according to the Economic Units Model. These enterprise groups typically have multiple legal entities, multiple TAUs and are among the largest contributors within industries.

32 **Non-Profiled population**: Businesses and other organisations with less complex structures. They are regarded as an enterprise group with a single legal entity and a single TAU in accordance with the Economic Units Model. Information for units in the non-profiled population is largely sourced from the ABR.

33 The two populations are mutually exclusive and cover all organisations in Australia which have registered for an ABN.

GENERAL NOTES ON ESTIMATES

34 AWE statistics represent average gross (before tax) earnings of employees and do not relate to average award rates or to the earnings of the 'average person'. AWE estimates are derived by dividing estimates of weekly total earnings by estimates of the number of employees. Changes in the averages may be affected not only by changes in the level of earnings of employees but also by changes in the overall composition of the wage and salary earner segment of the labour force.

35 There are several factors which can contribute to compositional changes, including variations over time in the proportions of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; and variations in the distribution of employment between industries. Such effects may apply differently within different states and territories, and over time.

36 Since the beginning of the survey, surprise outliering has been used as the sole methodology to identify and reduce the impact on the estimates of a business whose weighted survey response is an outlier i.e significantly different to businesses in a group with similar characteristics (based on employment size, state and industry). Surprise outliering involves treating the identified outlier as if it were the only extreme unit in the group's population. The outlier is given a weight of one and the weights of the other units in the group are adjusted upwards accordingly.

37 From the May 2014 issue, winsorisation methodology has been introduced as the primary method to treat outliers in AWE. Winsorisation moderates the impact of an outlier business without the harsh impact of the surprise outliering approach. This improved methodology will provide more stable time series estimates. Surprise outliering will continue to be used for a small number of extreme values that may not be sufficiently moderated by the winsorisation method.

38 An analysis of the May 2014 estimates was undertaken to estimate the impact on the estimates of the change in methodology. At the Australia level the impact of the change was found to be minimal. However, for some data items in some industries and states there is an impact on the estimates. For further information on outliers, refer to Chapter 17 of Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.011).

AVERAGE WEEKLY CASH EARNINGS

39 The definition of earnings currently used in the AWE survey is, broadly, current and regular payments in cash to employees for work done. Thus, earnings series from the AWE survey historically excluded amounts salary sacrificed, as these had been considered conceptually as payments in kind. However, under the revised conceptual framework for measures of employee remuneration, as presented in Information Paper: Changes to ABS Measures of Employee Remuneration, 2006 (cat. no. 6313.0), amounts salary sacrificed are now considered conceptually to be wages and salaries in cash. Accordingly, the AWE questionnaire was redesigned, and from August 2007, the collection of information on amounts salary sacrificed by employees commenced. However, the AWE series has continued to be published on the old conceptual basis (i.e. exclusive of amounts salary sacrificed) to maintain long term comparability of the time series.

40 Although the AWE survey has conceptually excluded amounts salary sacrificed, in practice, there was evidence that earnings series from the AWE survey had inadvertently included some amounts salary sacrificed. The ABS worked closely with data providers to identify any instances of misreporting, and to amend their reporting practices where necessary.

41 As a result of the separate collection of salary sacrificed amounts from August 2007, and other analyses, the ABS was able to quantify the extent of mis-reporting that had occurred, and

to estimate the impact of this mis-reporting on the historical series. Consequently, AWE data series for August 1996 through to May 2008 were revised to exclude all amounts salary sacrificed. For further information see Information Paper: Revisions to the Average Weekly Earnings Series, Aug 2008 (cat. no. 6302.0.55.001) released 11 November 2008.

42 Since the May 2011 edition of this publication, Average Weekly Cash Earnings (AWCE) series have also been released as additional (not replacement) AWE series. The difference between the AWCE and the AWE series is the average weekly amount salary sacrificed. Data relating to the AWCE series are available in the time series spreadsheets on the Downloads tab at the top of this page. For more information relating to the AWCE series, refer to the Information Paper: Release of Average Weekly Cash Earnings Series, May 2011 (cat. no. 6302.0.55.003) and for broad level analysis and findings refer to the Information Paper: Changes to Average Weekly Earnings, Australia, April 2012 (cat. no. 6302.0.55.002).

COMPARABILITY OF SERIES

43 The current AWE series, based on information obtained from a sample survey of employers, was introduced in August 1981. Prior to August 1981, the AWE series was based principally on information from payroll tax returns. Revised estimates of AWE for the period August 1981 to November 1983 were included in Average Weekly Earnings, States and Australia, March 1984 (cat. no. 6302.0) published on 12 July 1984 and available on the ABS website. Users who need a measure of the movement in earnings for a period which spans both the payroll tax based and employer survey series should refer to Table 3 in that publication which presents both series linked to a common index base (August 1981 = 100.0).

ESTIMATES OF MOVEMENT IN AWE

44 AWE is designed to provide estimates of the level of average earnings at a point in time and, while not designed for movements in earnings, the frequency of collection supports a time series of these level estimates. Data on the average level of earnings are useful for providing a level benchmark to compare a specific amount to an average level of earnings (for example, what an individual earns compared with the average).

45 As the primary purpose of AWE is to estimate the level of average earnings in Australia, the standard errors for the period-to-period movements are much higher proportionally than for the level estimates. Estimates of movement should be interpreted with this in mind. An alternative source for estimates of movements in the price of wages in Australia is the Wage Price Index, Australia (cat. no. 6345.0) (refer to paragraphs 46-51 below).

COMPARABILITY WITH WAGE PRICE INDEX

46 Period-to-period movements for the AWE series are not comparable with those for the Wage Price Index (WPI). It is important to recognise that the two series have different purposes and concepts and use different sample selection and estimation methodologies.

47 The AWE survey is designed to measure the level of average earnings in Australia at a point in time. It does this by obtaining data from selected businesses on the total earnings paid to their employees and the total number of employees in the business, for a specific pay period. Together, this data is used to derive the mean, or average, earnings. These sample data are then weighted to provide estimates for the whole population of in scope businesses.

48 The WPI is a price index designed to measure the change over time in the price of wages and salaries. It does this by pricing specific jobs, in terms of wage and salary payments to employees occupying the jobs, and collecting information from businesses each quarter on price

changes in those jobs. It is unaffected by changes in the quality and quantity of labour services purchased by employers.

49 In addition to changes in the price of labour, AWE estimates are affected by changes in hours worked and by compositional changes in the employee workforce (see paragraphs 34 and 35). The WPI prices a fixed quantum of labour services for each job, and hence changes to base earnings resulting from increases in hours worked or from changes in the composition of the employee workforce will not be reflected in the index.

50 For further information on comparability between AWE and WPI, please refer to the feature article Average Weekly Earnings and Wage Price Index - What do they measure? published in this release of AWE.

51 For further information on the WPI, please refer to the Explanatory Notes of Wage Price Index, Australia (cat. no. 6345.0) and Wage Price Index: Concepts, Sources and Methods, 2012 (cat. no. 6351.0.55.001) which are available on the ABS web site.

ALTERNATIVE ABS EARNINGS DATA

52 Information about wages and salaries paid to employees is used for many purposes including economic analysis, social research, policy formation and evaluation, and research by employer and employee associations. In addition to AWE, the ABS publishes a variety of other information on wages and salaries (generally referred to as 'earnings'), from both household and employer surveys. For further information on these other sources, please refer to the feature article Understanding Earnings in Australia Using ABS Statistics published in Employee Earnings, Benefits and Trade Union Membership, Australia, August 2013 (cat. no. 6310.0).

EFFECTS OF ROUNDING

53 Estimates of average weekly earnings are rounded to the nearest 10 cents.

54 Estimates of percentage change have been calculated using unrounded estimates and may be different from, but are more accurate than, movements obtained from calculating percentage changes using the rounded estimates presented in this publication.

SEASONAL ADJUSTMENT

55 Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular series. Influences that are volatile or unsystematic can still make it difficult to interpret the movement of the series even after adjustment for seasonal variation. If a time series has no identifiable seasonality it is not seasonally adjusted.

56 As part of the transition to a biannual frequency, an assessment was conducted on the feasibility of releasing biannual seasonally adjusted and trend estimates. It was determined that reducing the frequency of collection did not eliminate observed seasonality entirely for some time series leaving 27 bi-annual series needing seasonal adjustment. Producing seasonally adjusted estimates for biannual time series poses problems as producing seasonally adjusted estimates for this frequency is non-standard in ABS and other international agency publications. As a result, the seasonal adjustment has been performed using an experimental methodology.

57 The new biannual seasonally adjusted series, commencing November 2012, uses the ABS's existing quarterly seasonal adjustment method. Linear interpolation is used to impute "missing"

quarterly original observations based on the succeeding and proceeding survey estimates. In this way a quarterly original data series is synthesised from the actual biannual data collected. These synthesised estimates are used in the seasonal adjustment process and are not released. The concurrent seasonal adjustment technique and Autoregressive Integrated Moving Average (ARIMA) modelling are used to estimate seasonal factors from this quarterly synthesised original data.

58 Under concurrent seasonal adjustment, the estimates of seasonal factors are improved as new or revised original estimates become available each period. However, for this collection, the seasonally adjusted estimates up to May 2012, presented in the May 2012 edition, will not be revised as they were based on actual quarterly observations, whereas those after that point are based on biannual observations.

TREND ESTIMATES

59 Seasonally adjusted estimates can be smoothed to reduce the impact of irregular or non-seasonal influences. Smoothed seasonally adjusted series are called trend estimates.

60 The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the original estimates and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

61 The trend estimates in this publication, obtained by dampening out the irregular component from the seasonally adjusted series, are calculated using a centred 7-term Henderson moving average of the seasonally adjusted estimates of quarterly synthesised original data. Estimates for the two most recent periods cannot be calculated using this centred average method: instead an asymmetric average is used. This can lead to revisions in the trend estimates for the last two observations when data become available for later periods. Revisions of trend estimates will also occur with revisions to the original data and re-estimation of seasonal adjustment factors. If a series is highly volatile then the trend estimates will be subject to greater revision for the latest few observations as new data become available. However, it is important to note that this does not make the trend series inferior to the seasonally adjusted or original series.

62 Please note that calculating seasonally adjusted and trend estimates on the synthesised quarterly series has resulted in a slight change in the level of the data. When the new series were implemented, the change in the level of data was calculated against historic data. At the Australia level, the maximum differences for full-time adult male average weekly ordinary time earnings between estimates based on the two frequencies were $4.20 in the trend series and $4.60 in the seasonally adjusted series. Over the length of the series the mean differences were $0.48 for the trend series and $0.76 for the seasonally adjusted series.

63 Those users seeking historical seasonally adjusted and trend estimates will be required to access past AWE editions, which are available on the ABS website. It is advised that seasonally adjusted and trend estimates produced before and after the May 2012 edition are not directly comparable and these historical series before the May 2012 edition will not be produced from less frequent biannual observations.

64 The privatisation of Telstra Corporation in November 2006 impacted on the private sector and public sector AWE series. For the purposes of ABS statistics, this change from public sector to private sector was effective from March quarter 2007. The effect of this change was significant for both the private sector and public sector series. As a result, a trend break was applied to both series between November 2006 and February 2007. For more information please see Information Paper: Future Treatment of Telstra in ABS Statistics, 2007 (cat. no. 8102.0), released 26 February 2007.

RELATED PUBLICATIONS

65 The following publications contain related information:

- Australian Labour Market Statistics (cat. no. 6105.0) - issued annually;
- Employee Earnings and Hours, Australia (cat. no. 6306.0) - issued biennially;
- Employee Earnings, Benefits and Trade Union Membership, Australia (cat. no. 6310.0) - issued annually;
- Employment and Earnings, Public Sector, Australia (cat. no. 6248.0.55.002) - issued annually;
- Experimental Estimates, Regional Wage and Salary Earner Statistics, Australia (cat. no. 5673.0);
- Gender Indicators, Australia (cat. no. 4125.0) - issued biannually;
- Information Paper: Changes to ABS Measures of Employee Remuneration, 2006 (cat. no. 6313.0) - issued 14 November 2006;
- Information Paper: Changes to Average Weekly Earnings, Australia, Aug 2009 (cat. no. 6302.0.55.002) - issued 5 November 2009;
- Information Paper: Changes to Average Weekly Earnings, Australia, Apr 2012 (cat. no. 6302.0.55.002) - issued 16 April 2012;
- Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System], 2002 (cat. no. 1372.0) - issued 6 May 2002;
- Information Paper: Release of Average Weekly Cash Earnings Series, May 2011 (cat. no. 6302.0.55.003) - issued 21 July 2011;
- Information Paper: Revisions to Average Weekly Earnings Series, Aug 2008 (cat. no. 6302.0.55.001) - issued 11 November 2008;
- Labour Force, Australia (cat. no. 6202.0) - issued monthly;
- Wage Price Index, Australia (cat. no. 6345.0) - issued quarterly; and
- Labour Statistics: Concepts, Sources and Methods, 2013 (cat. no. 6102.0.55.001)

Glossary

GLOSSARY

Adult employees

Adult employees are those employees 21 years of age or over and those employees who, although under 21 years of age, are paid at the full adult rate for their occupation.

Average weekly cash earnings

Average weekly cash earnings represents average gross (before tax) earnings of employees, inclusive of salary sacrifice. Average weekly cash earnings differs from average weekly earnings by the average weekly amount salary sacrificed.

Average weekly earnings

Average weekly earnings statistics represent average gross (before tax) earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Estimates of average weekly earnings are derived by dividing estimates of weekly total earnings by estimates of number of employees.

Employees

Employees refer to all wage and salary earners (as defined in paragraphs 4 and 5 of the Explanatory Notes) who received pay for any part of the reference period.

Full-time employees

Full-time employees are permanent, temporary and casual employees who normally work the agreed or award hours for a full-time employee in their occupation and received pay for any part of the reference period. If agreed or award hours do not apply, employees are regarded as full-time if they ordinarily work 35 hours or more per week.

Reference period

The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference quarter. Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

Salary Sacrifice

Salary sacrifice is defined as an arrangement where an employee agrees to forgo part of their pre-tax salary in return for benefits. Common types of salary sacrifice arrangements include pre-tax contributions to superannuation funds and novated leases for motor vehicles.

Sector

Public sector includes all local government authorities and government departments, agencies and authorities created by, or reporting to the Commonwealth and State parliaments. All remaining employees are classified as private sector.

Weekly ordinary time earnings

Weekly ordinary time earnings refers to one week's earnings of employees for the reference period, attributable to award, standard or agreed hours of work. It is calculated before taxation and any other deductions (e.g. superannuation, board and lodging) have been made. Included in ordinary time earnings are award, workplace and enterprise bargaining payments, and other agreed base rates of pay, over-award and over-agreed payments, penalty payments, shift and other allowances, commissions and retainers, bonuses and similar payments related to the reference period, payments under incentive or piecework, payments under profit sharing schemes normally paid each pay period, payment for leave taken during the reference period, all workers' compensation payments made through the payroll, and salary payments made to directors. Excluded are amounts salary sacrificed, non cash components of salary packages, overtime payments, reimbursements to employees for travel, entertainment, meals and other expenditure incurred in conducting the business of their employer, and other payments not related to the reference period.

Weekly total earnings

Weekly total earnings of employees is equal to weekly ordinary time earnings plus weekly overtime earnings.

Abbreviations

ABBREVIATIONS

ABN	Australian Business Number
ABR	Australian Business Register
ABS	Australian Bureau of Statistics

ABSBR	Australian Bureau of Statistics Business Register
ANZSIC	Australian and New Zealand Standard Industrial Classification
ARIMA	Autoregressive Integrated Moving Average
ATO	Australian Taxation Office
AWCE	Average Weekly Cash Earnings
AWE	Average Weekly Earnings
EG	Enterprise Group
LE	Legal Entity
PAYGW	Pay-As-You-Go Withholding
SISCA	Standard Institutional Sector Classification of Australia
TAU	Type of Activity Unit
TOBE	Type of Business Entity
TOLO	Type of Legal Organisation
WPI	Wage Price Index

Quality Declaration

QUALITY DECLARATION - SUMMARY

INSTITUTIONAL ENVIRONMENT

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see ABS Institutional Environment.

RELEVANCE

The biannual Survey of Average Weekly Earnings (AWE) is designed to produce estimates of the level of average gross weekly earnings associated with employee jobs in Australia, at a point in time. While AWE is not designed for movement in earnings, the frequency of collection supports a time series of these level estimates. In practice, AWE is used for estimates of both the level of earnings and movement in earnings; level estimates and estimates of movement in AWE are linked to both state and federal legislation for adjusting a variety of government payments. AWE data are also used for analysing average earnings, framing and supporting wage claims/submissions, monitoring wage equity and developing taxation and social policies.

The key earnings series produced from the survey are:

- full-time adult ordinary time earnings (commonly referred to as AWOTE);
- full-time adult total earnings;
- all employees total earnings.

Each of the above series is available for males, females and persons. Estimates are available by state/territory, industry and sector. Seasonally adjusted and trend estimates are produced for key series. Cash series estimates, which are inclusive of amounts salary sacrificed, are also available.

TIMELINESS

AWE is produced for the June and December quarters. The reference period for the survey is the last pay period ending on or before the third Friday of the middle month of the reference

quarter (i.e. May and November). Where a pay period is fortnightly or monthly, etc., the employer is requested to report only one week's proportion.

Prior to 2012, Average Weekly Earnings was conducted on a quarterly basis. The frequency of the AWE survey was changed to biannual with effect from the 2012/13 financial year. The May 2012 publication was the last quarterly issue and the November 2012 the first produced on a biannual basis.

AWE estimates are released approximately 13 weeks after the reference date for the May edition and 14 weeks after the reference date for the November edition due to the Christmas and New Year period.

ACCURACY

Information for the AWE survey is collected via web form questionnaires which are distributed to approximately 5,500 employers. The population of employers is stratified by state, sector, industry division and employment size to ensure adequate state, sector and industry representation. The target minimum response rate is 95% for the survey as a whole and 90% for each state, sector and industry.

There are two principal sources of error in surveys, sampling error and non-sampling error. Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise non-sampling error by the careful design and testing of questionnaires, detailed checking of the reported data and direct follow up with providers where significant errors are detected.

Sampling error occurs when a sample or subset of the population is surveyed rather than the entire population. One measure of the likely difference resulting from not including all of the population in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the whole population had been included in the survey.

As the primary purpose of AWE is to estimate the level of average earnings in Australia, the standard errors for period-to-period movements are much higher proportionally than for level estimates. Estimates of movement should be interpreted with this in mind.

AWE estimates are seasonally adjusted to remove the estimated effects of normal seasonal variation from the series. The seasonally adjusted series are further smoothed to reduce the impact of irregular or non-seasonal factors. Smoothed seasonally adjusted series are called trend estimates. As data becomes available for the next period there are usually revisions in the seasonally adjusted and trend estimates for the previous periods.

The ABS considers that trend estimates provide a more reliable guide to the underlying direction of the original estimates and are more suitable than either the seasonally adjusted or original estimates for most business decisions and policy advice.

COHERENCE

The current AWE series, based on information obtained from a sample survey of employers, was introduced in August 1981. Prior to August 1981 the AWE series was based primarily on information from payroll tax returns.

Data collection methodology has been improved over time, including survey definitions and sample design. Seasonally adjusted estimates were introduced in 1983 and trend estimates were introduced in 1993.

The AWE survey uses Australian standard classifications to facilitate data comparability across statistical series. From the August 2009 issue of the AWE publication, data is presented using the 2006 edition of the Australian and New Zealand Standard Industrial Classification (ANZSIC). The 2006 edition of ANZSIC was developed to provide a more contemporary industrial classification system, taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards.

Industry data from August 2009 is only available on an ANZSIC 2006 basis. Published industry series have been backcast and data from August 1994 to May 2009 are available on the ABS website on the basis of both the 2006 edition of ANZSIC and the previous 1993 edition.

The ABS conducts a number of sample surveys of businesses which collect information about wages and salaries. One of these, the Wage Price Index, is designed to measure the change over time in the price of wages and salaries. Period-to-period movements for the AWE series are not comparable with those for the Wage Price Index as the two series have different purposes and concepts and use different sample selection and estimation methodologies.

INTERPRETABILITY

Average weekly earnings statistics represent average gross earnings of employees and do not relate to average award rates nor to the earnings of the 'average person'. Changes in the averages may be affected not only by changes in the level of earnings of employees, but also by changes in the overall composition of the wage and salary earner segment of the labour force.

There are several factors which can contribute to compositional changes, including variations over time in the proportions of full-time, part-time, casual and junior employees; variations in the occupational distribution within and across industries; variations in the distribution of employment between industries; and variations in the proportion of male and female employees. Such effects may apply differently within different states and territories, and over time.

Average Weekly Earnings, Australia (cat. no. 6302.0) contains Explanatory Notes, a Glossary and a Technical Note which provide further information about data sources, terminology and other technical aspects of the series.

ACCESSIBILITY

Average Weekly Earnings, Australia (cat. no. 6302.0) is available electronically from the ABS website and includes downloadable Excel data files for time series data.

Sampling Error (Technical Note)

TECHNICAL NOTE SAMPLING ERROR

RELIABILITY OF ESTIMATES

1 As the estimates in this publication are based on information relating to a sample of employers, rather than a full enumeration, they are subject to sampling variability. That is, they may differ from the estimates that would have been produced if the information had been obtained from all employers. This difference, called **sampling error**, should not be confused with inaccuracy that may occur because of imperfections in reporting by respondents or in processing

by the ABS. Such inaccuracy is referred to as **non-sampling error** and may occur in any enumeration whether it be a full count or a sample. Efforts have been made to reduce non-sampling error by careful design of questionnaires, detailed checking of returns and quality control of processing.

2 The sampling error associated with any estimate can be estimated from the sample results. One measure of sampling error is given by the **standard error** which indicates the degree to which an estimate may vary from the value which would have been obtained from a full enumeration (the 'true value'). There are about two chances in three that a sample estimate differs from the true value by less than one standard error, and about nineteen chances in twenty that the difference will be less than two standard errors. Standard errors are provided in tables 3, 6, 9, 10 and 13 to 17.

3 An example of the use of a standard error is as follows. If the estimated average earnings were $1,100.00 with a standard error of $7.00, then there would be about two chances in three that a full enumeration would have given an estimate in the range $1,093.00 to $1,107.00 and about nineteen chances in twenty that it would be in the range $1,086.00 to $1,114.00.

4 Another measure of the sampling error is the **relative standard error**, which is obtained by expressing the standard error as a percentage of the estimate.